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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/646,347	01/04/2001	Marilyn E. Karaman	FB RICE & Co.	8741

7590 12/23/2004

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EXAMINER

CINTINS, IVARS C

ART UNIT	PAPER NUMBER
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1724

DATE MAILED: 12/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/646,347

**Applicant(s)**

KARAMAN ET AL.

**Examiner**

Ivars C. Cintins

**Art Unit**

1724

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12 October 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,3-10 and 27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 3-10 and 27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 6-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Mehkeri et al. (U.S. Patent No. 5,512,491). The reference discloses removing microbiological contaminants, such as *Cryptosporidium* (col. 11, line 11), from water with a particulate medium having surface hydrated active hydroxyl groups (col. 3, lines 14-15). This reference further teaches using alumina as a base material (col. 3, line 11), and the surface hydrated active hydroxyl groups in this alumina will contain surface Al-OH groups, as required by claims 1 and 6-8. Applicant should note that the claims merely require the use of a medium which “contains surface Al-OH groups,” and do not preclude the presence of additional materials in the medium, such as a coating of aluminum hydroxide.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3-5, 9, 10 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mehkeri et al. The reference discloses the claimed invention with the exception of the surface density of Al-OH groups on the alumina (claims 3-5 and 27) and the particle size of this alumina (claims 9, 10 and 27). However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ alumina having the recited surface density of Al-OH

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groups in the reference process, in order to ensure that enough active hydroxyl groups are present to adequately purify the water (see col. 3, lines 2-5). Also, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ alumina having the recited particle size in this reference process, in order to facilitate handling of this treatment material.

Applicant's arguments filed Applicant's arguments filed October 12, 2004 have been noted and carefully considered but are not deemed to be persuasive of patentability. Applicant argues that the material of the claimed invention is distinct from an aluminum hydroxide coated material, as disclosed in Mehkeri et al. It is pointed out, however, that the alumina employed in Mehkeri et al. contains surface Al-OH groups (see col. 3, lines 11 and 14-15), as required by the claims of this application. The fact that this reference material further contains a coating of aluminum hydroxide is not deemed to be significant, since this additional coating is not precluded by the claims of this application (i.e. because of the "contains" language in the third line of claim 1).


Applicant also argues that Mehkeri et al. fails to disclose the surface density of Al-OH groups recited in dependent claim 3. Again, this argument has been noted and carefully considered, but is not deemed to be persuasive of patentability. It is pointed out that since the alumina of the reference contains surface Al-OH groups, as explained above, it must inherently contain these surface Al-OH groups in some unspecified surface density. Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ alumina having the recited surface density of Al-OH groups in the reference process, in order to ensure that enough active hydroxyl groups are present to adequately purify the water.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to I. Cintins whose telephone number is (571) 272-1155. The examiner can normally be reached on Monday through Friday from 8:30 AM to 5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Duane Smith, can be reached at (571) 272-1166.

The centralized facsimile number for the USPTO is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
**Ivars C. Cintins**  
**Primary Examiner**  
**Art Unit 1724**

I. Cintins  
December 20, 2004